

**Response of
Wisconsin Power and Light Company
to
The Public Service Commission of Wisconsin
Data Request No. 1.11**

Docket Number: 05-CE-137
Date of Request: January 29, 2009
Information Requested By: Ken Detmer
Date Responded: February 16, 2009
Author: Eric Guelker
Author's Title: Mgr Environmental Services
Author's Telephone No.: (608) 458-8163
Witness: (If other than Author)

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p. 19 par. 4: Provide an update to what levels of control (before and after) are being experienced for Hg with activated carbon injection.

Response:

Based on coal sampling and stack testing in 2005 it was estimated that the native capture of mercury is approximately 23% for Unit 5. Since grab samples of coal were used in conjunction with 3-hour stack tests there is considerable variability in this estimating approach.

Activated carbon injection (ACI) was installed in early 2008 and tested for performance during February and March of 2008. The performance testing was conducted to determine if short-term reductions of 70% and 90% could be achieved with reasonable carbon injection rates. The conclusion was that 70% and 90% reduction of total mercury could be achieved at steady high load with activated carbon injection rates of approximately 1 and 2 pounds per million cubic feet air per minute (lb/mmcfm) respectively. Mercury emissions were continuously monitored during the testing with the existing mercury emission monitor in the Unit 5 stack. The 70% and 90% reduction represents control of the mercury in the flue gas. This reduction is approximate since inlet mercury varies with coal and boiler conditions and was approximated for the duration of each test from continuous emission monitor readings just prior to the beginning of the test. Reductions, as measured from the fuel-bound mercury, will be slightly higher.

Long term operational and control performance of the ACI system will not be known until the system is used on a routine basis beginning later in 2009 to provide mercury control needed to support 2010 compliance with the WI mercury rule (NR 446).